



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,405	07/08/2003	Robert T. Baum	Verizon-16APP (01-1517)	9236

32127 7590 12/21/2006  
VERIZON  
PATENT MANAGEMENT GROUP  
1515 N. COURTHOUSE ROAD, SUITE 500  
ARLINGTON, VA 22201-2909

EXAMINER
----------

SMITHERS, MATTHEW

ART UNIT	PAPER NUMBER
----------	--------------

2137

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/21/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/616,405	BAUM, ROBERT T.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Matthew B. Smithers	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,11-16 and 20 is/are rejected.
- 7) ☒ Claim(s) 7,9,10 and 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8, 11-16, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent application 20040202171 granted to Hama.

Regarding claim 1, Hama meets the claimed limitations as follows:

“A method of operating a communications system including an edge router, the method comprising:

operating said edge router to perform the steps of:

generating, in a forwarding table, a MAC address forwarding table entry from a MAC address included in a headers of a frame received by said edge router;

monitoring a communications session between a device on a network which uses MAC addresses with a server responsible for assigning IP addresses to detect assignment of an IP address corresponding to a MAC address provided in a data portion of a message from said device;

and upon detecting assignment of an IP address corresponding to a MAC address provided in a data portion of said message, creating an entry in an address resolution table associating an assigned IP address with said MAC address provided in the data portion of said message.” see paragraphs [0072]; [0073]; [0083]; [0085]; [0086]; [0087]; [0088]; [0099]; [0102]; [0103]; [0105]; and Figures 2, 9, and 16.

Regarding claim 2, Hama meets the claimed limitations as follows:

“The method of claim 1, further comprising: discarding IP packets corresponding to IP addresses for which a MAC address included in said address resolution table does not have a corresponding MAC address entry in said MAC address forwarding table.” see paragraphs [0095]; [0099]; and Figures 2, 9, and 16.

Regarding claim 3, Hama meets the claimed limitations as follows:

“The method of claim 2, wherein Address Resolution Protocol is not used by said edge router.” see paragraphs [0105]; and Figures 2, 9, and 16.

Regarding claim 4, Hama meets the claimed limitations as follows:

“The method of claim 3, further comprising: storing in said address resolution table aging information obtained from monitoring information associated with said IP address assignment.” see paragraphs [0100]; [0101]; [0102]; [0103]; [0104]; and Figures 2, 9, and 16.

Regarding claim 5, Hama meets the claimed limitations as follows:

“The method of claim 4, further comprising: operating said edge router to monitor for IP address release messages transmitted from said network to the server responsible for assigning IP addresses; and deleting, in response to detecting an IP address release

message, an entry in said address forwarding table corresponding to an IP addresses included in said detected IP address release message.” see paragraphs [0100]; [0101]; [0102]; [0103]; [0104]; [0105]; [0109]; and Figures 2, 9, and 16.

Regarding claim 6, Hama meets the claimed limitations as follows:

“The method of claim 5, further comprising; operating said edge router to compare a MAC address included in the data portion of an IP address assignment request message to a MAC address included in the header of said IP address assignment request message.” see paragraph [0076] and Figure 3.

Regarding claim 8, Hama meets the claimed limitations as follows:

“The method of claim 1, further comprising: operating the edge router to transmit MAC address information obtained by accessing a forwarding table included in said edge router in response to a request for MAC address information corresponding to an IP address assignment request.” see paragraphs [0082]; [0086]; and Figures 8 and 9.

Regarding claim 11, Hama meets the claimed limitations as follows:

“A communication system comprising:

an edge router including:

means for generating, in a forwarding table, a MAC address forwarding table entry from a MAC address included in a headers of a frame received by said edge router;

means for monitoring a commutations session between a device on a network which uses MAC addresses with a server responsible for assigning IP addresses to

detect assignment of an IP address corresponding to a MAC address provided in a data portion of a message from said device;

and means for creating an entry in an address resolution table associating an assigned IP address with said MAC address provided in the data portion of said message upon detecting assignment of an IP address corresponding to a MAC address provided in a data portion of said message.” see paragraphs [0072]; [0073]; [0083]; [0085]; [0086]; [0087]; [0088]; [0099]; [0102]; [0103]; [0105]; and Figures 2, 9, and 16.

Regarding claim 12, Hama meets the claimed limitations as follows:

“The communication system of claim 11, wherein support for Address Resolution Protocol is disabled in said edge router.” see paragraphs [0105]; [0106]; [0107]; [0109]; and Figures 2, 9, and 16.

Regarding claim 13, Hama meets the claimed limitations as follows:

“The communication system of claim 12, wherein said edge router further includes: means for discarding IP packets corresponding to IP addresses for which a MAC address included in said address resolution table does not have a corresponding MAC address entry in said MAC address forwarding table.” see paragraphs [0095]; [0099]; and Figures 2, 9, and 16.

Regarding claim 14, Hama meets the claimed limitations as follows:

“The communications system of claim 13, wherein said edge router further comprises: an address resolution table including IP address aging information obtained from monitoring information associated with said IP address assignment.” see paragraphs [0100]; [0101]; [0102]; [0103]; [0104]; and Figures 2, 9, and 16.

Regarding claim 15, Hama meets the claimed limitations as follows:

"The communications system of claim 14, wherein said edge router further includes: means for monitoring for IP address release messages transmitted from said network to the server responsible for assigning IP addresses; and means for deleting, in response to detecting an IP address release message, an entry in said address forwarding table corresponding to an IP addresses included in said detected IP address release message." see paragraphs [0100]; [0101]; [0102]; [0103]; [0104]; [0105]; [0109]; and Figures 2, 9, and 16.

Regarding claim 16, Hama meets the claimed limitations as follows:

"The communications system of claim 15, wherein said edge router further comprises: means for comparing a MAC address included in the data portion of an IP address assignment request message to a MAC address included in the header of said IP address assignment request message." see paragraph [0076] and Figure 3.

Regarding claim 20, Hama meets the claimed limitations as follows:

"A machine-readable medium, comprising a set of machine-readable instructions for controlling a machine to perform the steps of: generating, in a forwarding table, a MAC address forwarding table entry from a MAC address included in a headers of a frame received by said edge router; monitoring a communications session between a device on a network which uses MAC addresses with a server responsible for assigning IP addresses to detect assignment of an IP address corresponding to a MAC address provided in a data portion of a message from said device; and upon detecting assignment of an IP address corresponding to a MAC address provided in a data

portion of said message, creating an entry in an address resolution table associating an assigned IP address with said MAC address provided in the data portion of said message.” see paragraphs [0072]; [0073]; [0083]; [0085]; [0086]; [0087]; [0088]; [0099]; [0102]; [0103]; [0105]; and Figures 2, 9, and 16.

***Allowable Subject Matter***

Claims 7, 9, 10, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 7, the cited prior art fails to specifically teach generating a security alert signal in response to detecting a mismatch between the MAC address included in the data portion of said IP address assignment request message and said MAC address included in the header of said IP address assignment request message.

With respect to claims 9 and 10, the cited prior art fails to specifically teach he method further comprises: operating said server to deny said IP address assignment request when said MAC address information obtained by accessing said forwarding table indicates a discrepancy between a MAC address included in the IP address assignment request and MAC address information included in said forwarding table.

With respect to claims 17-19, the cited prior art fails to specifically teach the edge router further comprises: means for generating a security alert signal in response to



Art Unit: 2137

detecting a mismatch between the MAC address included in the data portion of said IP address assignment request message and said MAC address included in the header of said IP address assignment request message.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Tuck et al (US 20040249975) discloses a network using a router to monitor data link layer information (MAC addresses) contained in data packets transmitted by a client to identify a host and its associated end user.

B. Feldmann (US 20020021675) discloses a system for analyzing a packet-switched network for errors and inconsistencies.

C. Wu et al (US 7,039,721) discloses a system for protecting Internet protocol addresses.

D. Adamski et al (US 6,975,587) discloses a mechanism for automatic router switching protection.

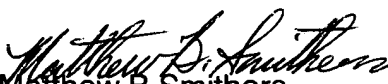
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew B. Smithers whose telephone number is (571) 272-3876. The examiner can normally be reached on Monday-Friday (8:00-4:30) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel L. Moise can be reached on (571) 272-3865. The fax phone

Art Unit: 2137

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Matthew B Smithers  
Primary Examiner  
Art Unit 2137